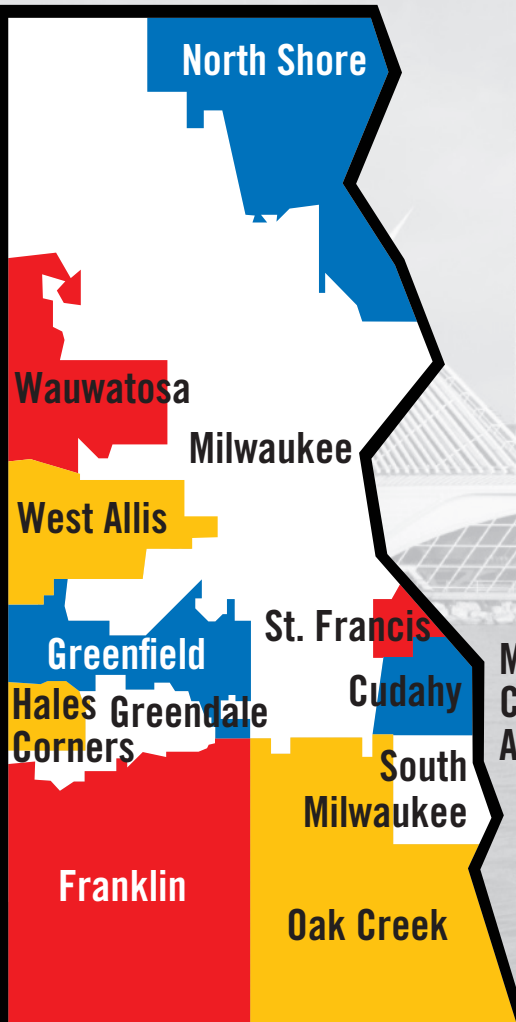


MILWAUKEE COUNTY



Milwaukee
County
Airport FD

United States
Air Force
128th Refueling
Wing FD

EMERGENCY MEDICAL SERVICES



ANNUAL REPORT 2008

The Emergency Medical Services System

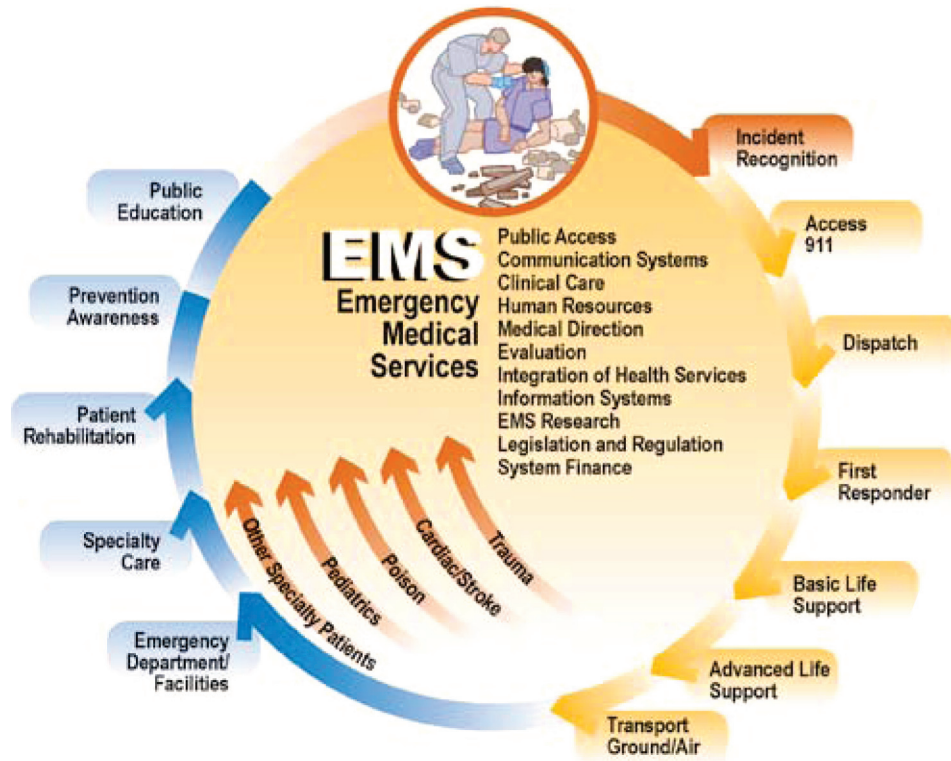


Diagram obtained from NHTSA web site. Ownership: Information on this web site is considered public information and may be distributed or copied.

CONTENTS

4	Administration
5	Quality Assurance
6-8	Health Information Management
9	Paramedic Unit Locations
10	Education
11	EMS Communications Center
12	Operations
13	Medical Sciences Research
14	Medical Control
15	Organizational Chart



OVERVIEW

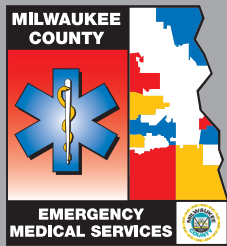
The Milwaukee County Emergency Medical Services system is a countywide system covering 241 square miles and serving approximately 951,252 people. It includes 19 separate municipalities that each provide their own BLS services (private and/or fire service), while paramedic services are provided by 16 dedicated ALS and 12 flexible ALS/BLS fire service ambulances and multiple paramedic first-response units. Depending on the community, paramedic ambulances are staffed with either 3 paramedics, 2 paramedics and an EMT-B driver, or 2 paramedics. In 2008, the paramedic system evaluated 31,233 patients; of these 21,737 were transported by paramedics, with 1,426 of these requiring direct physician consultation. Thirty-seven active fire department rescue squads (BLS) and 56 engine companies function as first responder units in Milwaukee County.

Initial access to the system occurs via several enhanced 911 call-taking centers where dispatchers are able to see the phone number and address of the location from where the call is placed. For 911 calls from cellular phones, Milwaukee County Sheriff's Department dispatchers route the call to the dispatch center of the municipality where the caller is located. The appropriate EMS units are dispatched in a tiered response according to protocol. An automatic defibrillator-equipped Basic Life Support unit (either a fire department rescue squad, fire truck, or private BLS ambulance) is sent as a first responder on every call and responds on average in 4 minutes.

When a paramedic unit (MED Unit) responds to a call, it is assigned to a radio frequency by a communicator at Milwaukee County EMS Communications Center (EMS COM). When necessary, a MED Unit will request a physician in EMS COM for assistance and additional orders.

The physician medical directors of the Milwaukee County EMS system provide medical oversight for all Milwaukee County EMS system plan participants. This includes developing policy and procedure for all aspects of out-of-hospital care including appropriate dispatch, communications, medical treatment and destination. A Medical Director is available 24-hours-a-day to provide real-time consultation to any Milwaukee County EMS provider.





Mission Statement: *The mission of Milwaukee County EMS is to provide performance excellence in pre-hospital care through education, communications, operations, health information and quality management, and scientific discovery.*

ADMINISTRATION

The administration of MC EMS manages the coordination of the day-to-day operations and strategic planning for the short term and long term future. Managers in the education, health information, quality assurance, communications and equipment/supply sections of MC EMS report to and collaborate with the program director to meet the mission and visions of the division.

Donations by stake holders/partners and grants

General Federation of Women's Clubs (GFWC)

In addition to the 25 pediatric equipment bags donated in 2007 for the paramedic units, the GFWC continue to supply pediatric equipment to the local fire departments for newly installed paramedic units.



Medical College of Wisconsin *Hometown Heroes* Emergency Medical Services Golf Tournament

This golf tournament continues to support the advancement of EMS research and the Milwaukee County EMS system by donating \$15,000 to the Paramedic Education Trust Fund.

Milwaukee County Special Needs Emergency Shelter Initiative

County EMS and EMS agencies began assisting the county's Department of Health and Human Needs in their development of a Special Needs Emergency Shelter. The DHHS identified that many shelters that are set up following a manmade or natural disaster cannot accommodate large numbers of patients with special needs, ex. ventilator dependent, patients requiring intravenous pumps or assistive devices, etc. The Special Needs Emergency Shelter will require patients to be transported from their residence to the shelter in the case of a disaster or evacuation. Many of these patients will need the services of EMS providers to transport and care for them during the relocation process. County EMS began working with EMS agencies on how they may assist DHHS in carrying out this initiative.

Steering Committee

Strategic Planning Process

The Steering Committee, charged with addressing the development, implementation and management of strategic planning initiatives is composed of the Program Director and managers of Health Information, Communications/Equipment, Quality Assurance, Education Center, and Medical Direction staff. In the development of the 2008 Strategic Plan, the committee identified two new initiatives to benchmark clinical performance measures and operational process measures. The clinical performance measures provide a quick, easy summary of the quality of patient care provided for critical medical conditions. The operational measures ensure the Milwaukee County EMS infrastructure is meeting its goal in supporting the EMS System.

Participation in Statewide Initiatives

Wisconsin Patient Wristband Color Standardized Program

Milwaukee County EMS participated in the Wisconsin Patient Wristband Color Standardization Project, sponsored by the Wisconsin Hospital Association.

In an effort to reduce the risk of harm to a patient due to incorrect interpretation of a patient's wristband color, many states have implemented – or are in the process of implementing – patient wristband color standards.

The WHA Board approved a task force to consider the issue. The task force was asked to develop a recommendation to standardize wristband colors and implement the standard. Among other things, the task force recommended that hospitals using color alerts (wristbands, stickers, etc.) should follow the Wisconsin standard to improve communication.

- Patient Identification - White or clear
- DNR - Purple
- Allergy - Red
- Fall Risk - Yellow

QUALITY ASSURANCE

Outcome Dashboards Developed

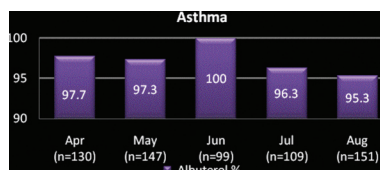
As part of EMS' initiative to make operational and medical care decisions using an evidence-based model, in 2008 EMS began to use a model to date analysis called Dashboard. Dashboards are a format of managing data similar to the dashboard of a car. As real-time information is gathered and displayed on a graph or matrix, crucial decisions can be made to adjust operations or medical care decisions. The use of Dashboards by EMS is an attempt to make adjustments to our high quality EMS system by monitoring key indicators of our performance and making adjustments as needed.

Partnerships with Local Receiving Hospitals

Milwaukee County EMS is represented on local hospitals' Chest Pain, Trauma, and Stroke Committees, with the ultimate goal of improved patient care prior to and after arrival in the emergency departments. MC EMS participated in the successful stroke and chest pain accreditation surveys for one of the area hospital systems.

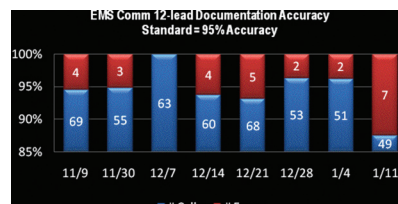
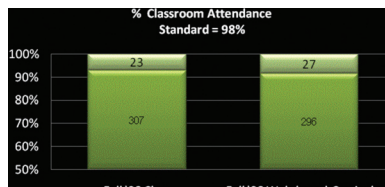
New Quality Initiatives

The addition of a full-time Quality Assurance Specialist has enabled the Quality Management section to significantly expand quality monitoring. Two new initiatives are benchmarking process measures for clinical indicators and the establishment of process measure to ensure the EMS infrastructure is meeting its goal in supporting the EMS system.



National standards for asthmatic patients recommend administration of bronchodilators. MC EMS meets the standard at least 95% of the time.

An operational monitor for the Education Center monitors classroom attendance, as well as timely completion of mandated web-based curriculum.



Another operational measure ensures communicators accurately document acquisition, transmission and receipt of 12-lead ECGs. This measure enables real-time monitoring for cardiac patients.

ECG Data Upload Initiative

In 2008, EMS took over responsibility for managing the uploading of electrocardiogram (ECG) data from the fire stations to the County database. Previously this process was created as part of the Medical College of Wisconsin research study. The process begins when an ECG recording is made while a patient is under the care of a municipal fire department EMS provider. When the call is completed, the EMS provider connects the ECG monitor/defibrillator to a computer at the fire station and uploads the data to the computer which is then processed to the County database.

This ECG record is then matched up with the patient care record to create a record that not only identifies the patient's complaint and treatments that were initiated, but also what the ECG looked like during the time period care was being provided. The combination of these two records allows EMS to review cases, make quality improvement decisions and fully monitor the EMS system. This initiative requires EMS to work with the thirteen area fire departments to keep the ECG upload computers current and files properly managed with the assistance of the Health Information and Quality Assurance sections of the EMS.

Sentinel Event Review Process

In the event of a mass casualty incident within Milwaukee County and Southeastern Wisconsin, the Milwaukee County EMS Communications Center is the designated agency for gathering and disseminating information to receiving hospitals. The role of the Communications Center is defined by Emergency Management policy (Annex O). On December 6, 2006, an explosion at the Falk Corporation in the City of Milwaukee triggered a mass casualty incident (MCI). As a result, the Sentinel Event Review Process was developed to identify and establish sentinel events warranting review of an incident. A Sentinel Event is identified as an incident meeting one or more of the following criteria:

- A non-system alert event is posted to WITrac
- A bed poll is requested from the field
- A Mutual Aid Box Alarm System for EMS is requested
- Three or more ALS units are dispatched to a single event
- An event not meeting above criteria, with more than one patient, in which a problem is identified
- A high profile case
- Request for air medical transport within Milwaukee County

Three Sentinel Events were identified and reviewed in 2008. Each event review triggered improvements in the review process, such as earlier identification, notification, and patient tracking.

HEALTH INFORMATION MANAGEMENT

The Health Information Management area of Milwaukee County EMS is responsible for the collection, computerization, and management of all patient care information generated by our contracted municipal EMS providers in the Milwaukee County EMS system. The area also ensures compliance with state confidentiality laws and the federal Privacy and Security Rules (HIPAA) governing protected health information.

Data Collection

In order to achieve a real-time data entry model, the collection of patient care information in the field (from the patient's side), is currently transitioning from a custom designed paper-based patient care record to an electronic patient care record. Both collection methods meet all State and National EMS uniform data collection requirements and are designed to complement our system's tiered response model with multiple responding units providing individually defined patient care documentation on one patient care record.

Sample of ePCR screen

Initial Assessment

LOC (N/A) AAOx0 AAOx1 AAOx2 AAOx3 AAOx4 Active	AVPU (N/A) A P U V	Respiratory Rate Agonal Assisted Deep Fatigued Irregular Labored NCP-200	Pulse Rate (N/A) Absent Bounding Irregular Newly Unknown Weak	Blood Pressure (SBP, DBP)
SpO2 (N/A) O2 RA	ETCO2	Glucose (mg/dL, Lo, Hi)	ECG Rhythm (N/A) 1st Degree AVB 2nd Degree AVB 3rd Degree AVB Accelerated Junctional Rhythm Artificial Pacemaker Ayside	Glasgow Eye (N/A) 1-No Response 2-To Pain 3-To Verbal Command 4-Spontaneous 5-Unknown
Glasgow Verbal (N/A) 1-No Response 2-Incomprehensible 3-Inappropriate word 4-Oriented 5-Oriented 9-Unknown	Glasgow Motor (N/A) 1-No Response 2-Decrebrate 3-Decorticate 4-Withdrawal Pain 5-Localizes Pain 6-Obeys commands	Pulse (L, R) Apical Brachial Carotid Femoral Pedal Radial	Pupils Artificial Blind Constricted Dilated Fixed Dilated Missing PERL	Capillary Refill (N/A) 1-second 1-2 seconds 2 seconds 3 seconds over 2 sec
Skin Color (N/A) Cyanotic Flush Jaundiced Livid Mottled Normal	Skin Moisture (N/A) Clammy Diaphoretic Dry Moist Normal Wet	Skin Temperature (N/A) Cold Cool Hot Warm	Breathing (N/A) Absent Adequate Agonal Assisted Labored	Breath Sounds (R/L) Clear Clear

Sample of Printed ePCR

DEMO Department
PO BOX 940249
HOUSTON, TX 77094
866-398-8999

AMBULANCE RECORD
0 (null)
Page 1 of 2

Trip Information			
Dispatch ID#	Date	Station	Responding Unit
917-221	04-01-2008	16225 Park Ten	AW Accord
Dispatched As	Found To Be	Patient Disposition	
Chest Pain	Chest Pain	Transport and treatment	
Dispatch Delay	Response Delay	Transport Delay	Turn-Around Delay
High Call Volume	Crowd	Diversion	Documentation
Pickup		Destination	
Demo Hospital 123 Demo Street HOUSTON, TX 77084		Demo Hospital 123 Demo Street HOUSTON, TX 77084	
Response To Scene	911 Emergency	Response From Scene	N/A
Map Page:	324V	Miles Transported	3.11
County	HARRIS	County	HARRIS
Multiple patients at scene		Destination Reason	Family Choice
		Number of Patients Transported	2
Patient Information			
Patient Name	TDCJ #	Gender	Ethnicity
Delete, Delete		Unknown	Unknown
Patient Residence		Date of Birth	DL
123 Demo Street		05-10-1989	



Patient Care Database

Our web-based relational database was designed to accommodate the increasing data elements, system connectivity needs, and reporting obligations. The database supports the collection of both the BLS and ALS data elements documented on the patient care record. Its web-based technology supports remote site access to the database via the Internet by all authorized EMS system participants. This provides opportunities to generate reports, run database queries and access record images for viewing or printing.

Database Entry

From Paper Record: An efficient record scanning process facilitates the computerization of the paper-based patient care records into the database. After scanning, the data and image of each page is sent to a verification program where only data with uncertain character recognition are targeted for a review. After all corrections are made, the data is saved and exported to the database along with the image.

From Electronic Record (ePCR): In 2008, two municipal EMS providers implemented an electronic patient care record (ePCR) process using a contracted vendor product that was customized to meet our system's operational needs. The ePCRs are uploaded via wireless Internet to the vendor's database upon record completion. The vendor then exports a copy of the patient care data to both the Milwaukee County EMS patient care database and the Wisconsin Ambulance Run Data System (WARDS).

Wisconsin Ambulance Run Data System (WARDS)

On January 1, 2008, the state of Wisconsin mandated patient care data submission from all EMS providers to a state-wide database called the Wisconsin Ambulance Run Data System. Its purpose is to assist the State in providing supportive information as to the activities of ambulance service providers in the state, such as support for requests for grants, monitoring quality care issues and surveillance monitoring for outbreak and public health concerns. Milwaukee County EMS submits data to WARDS on behalf of any requesting contracted municipal EMS provider using a paper-based record.

Database Benefits

Milwaukee County EMS centralized data repository is a vital component in managing our reputable EMS system, which was ranked 3rd best in the nation by *USA Today*. It provides the ability to:

- Project relevant budget needs based on current data
- Evaluate inventory and supplies to promote cost containment
- Conduct opportune system performance reviews to assure efficient operation
- Evaluate individual personnel performance benchmarks
- Provide up-to-date statistical reports
- Collect patient outcome information from receiving hospitals, and
- Identify quality improvement elements to promote the continuous high level of quality patient care to the people of Milwaukee County.

Sample of Scannable Paper PCR

CONFIDENTIAL MEDICAL INFORMATION COVERED UNDER WISCONSIN STATUTE 146.81-84										CASE NO.
EMS REPORT										DISPATCH LEVEL <input type="radio"/> ALS <input type="radio"/> BLS Spec
EMERG. LOCATION	AMB. PROVIDER NO.									
TYPE OF LOCATION	<input type="radio"/> Airport <input type="radio"/> Educ. Inst. <input type="radio"/> Home/Resid. <input type="radio"/> Industrial <input type="radio"/> Public Building <input type="radio"/> Clinic/Med. <input type="radio"/> Farm <input type="radio"/> Hospital <input type="radio"/> Nursing Home <input type="radio"/> Public Outdoors									
UNIT Letter	UNIT Number	ENTRY TIME	DISPATCH TIME	TIME UNIT RESP.	AT SCENE	AT				
<input type="radio"/> BLS										
<input type="radio"/> PFR										
<input type="radio"/> ALS										
1ST EMS UNIT ARRIVING	OTHER UNITS RESPONDING: <input type="radio"/> E - Engine Co. <input type="radio"/> R - FD Squad <input type="radio"/> L - Ladder Co. <input type="radio"/> MALS Unit									
PATIENT LAST NAME	FIRST NAME									
ADDRESS	CITY									
Same as above										
PRIMARY INSURANCE	<input type="radio"/> Medicare <input type="radio"/> T19 <input type="radio"/> BCBS <input type="radio"/> UHC <input type="radio"/> Compcare <input type="radio"/> Self Pay <input type="radio"/> POLICY # <input type="radio"/> Same as SSA									
SECONDARY INSURANCE	<input type="radio"/> T19 <input type="radio"/> Aetna <input type="radio"/> BCBS <input type="radio"/> Compcare <input type="radio"/> Humana <input type="radio"/> WPS <input type="radio"/> POLICY # <input type="radio"/> Same as SSA									
DISPATCH CODE	CHIEF COMPLAINT									
	BLS/PFR									
	ALS									
PRIMA WORKING ASSESSMENT / Standard of Care (Select One Code):										
WORKING ASSESSMENT (Fill in all circles that apply)										
<input type="radio"/> BLS	<input type="radio"/> ALS	<input type="radio"/> BLS	<input type="radio"/> ALS	<input type="radio"/> BLS	<input type="radio"/> ALS	<input type="radio"/> BLS	<input type="radio"/> ALS	<input type="radio"/> BLS	<input type="radio"/> ALS	
<input type="radio"/> A1- Aninal(chest pain) / MI		<input type="radio"/> B7- Cough		<input type="radio"/> F1- Trauma-Blunt						

System Information

Population: 951,252 (2007 census)

Land Area: 241.56 square miles

Persons per square mile: 3,885

- Population under 5 years – 7.8%
- Population under 18 years – 26.4%
- Population over 64 years – 11.7%
- Population over 18 and under 64 – 54.1%

Statistics –Advanced Life Support (ALS) Units

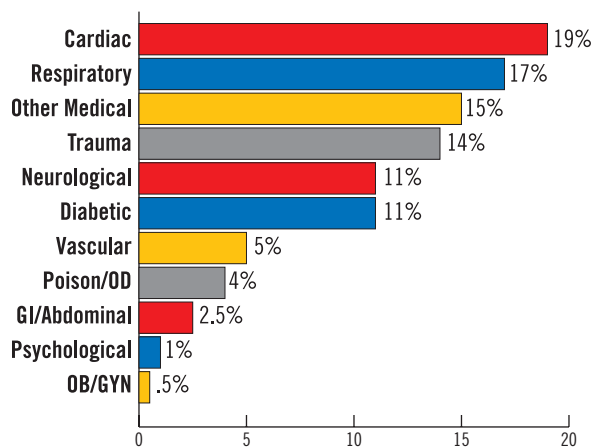
Milwaukee County Cardiac Arrest Survival Rate: 14%

(National average = 5%)

Number of ALS (Paramedic) units = 28

		% Change
• Requests for Call Radio Frequency: (EMS Communications Center)	45,353	(+4.1%)
• Total Doctor Calls:	1,426	(-2.9%)
• Total ALS Patients Seen	31,233	(+2.7%)
• Total ALS Transports	21,737	(+2.2%)

ALS Patient Conditions (See graph)



ALS Unit Response data

- 90% Response Times are ≤ 9 min.
- Average Response Time = 5 min.
- Average Pt. Scene Duration* = 22 min.
- Average Transport Time = 10 min.

* At scene duties consist of assessing and stabilizing patient before transport to the hospital to prevent further injury.

ALS Patient Demographics

- Male 49 %
- Female 51 %

ETHNIC ORIGIN

- White 53 %
- African American 36 %
- Hispanic 5 %
- Other 1 %
- Asian 0.8 %
- Native American 0.2 %
- Unknown 4 %

AGES

- ≤ 2 2 %
- 3-7 1 %
- 8-21 8 %
- 22-40 16 %
- 41-59 30 %
- 60-80 27 %
- > 80 15 %
- Unknown <1 %

Milwaukee County Mitchell International Airport Fire Department Basic Life Support (BLS) Services

Total Patients Seen = 491

Airport Fire Department Patient Conditions (See graph)

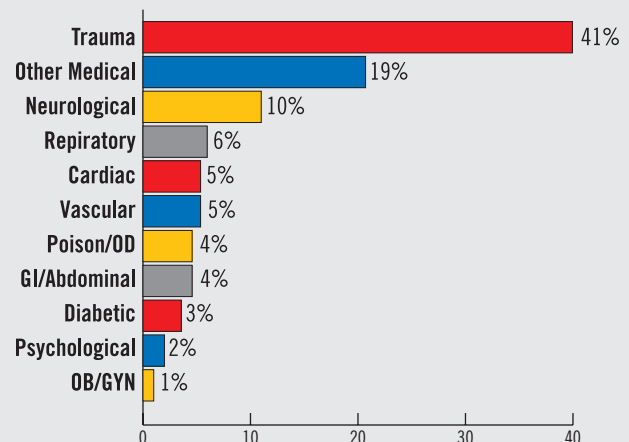
Cardiac Arrest Occurrences = 2

Outcome: 1 expired and 1 survived hospital discharge

Patient Dispositions

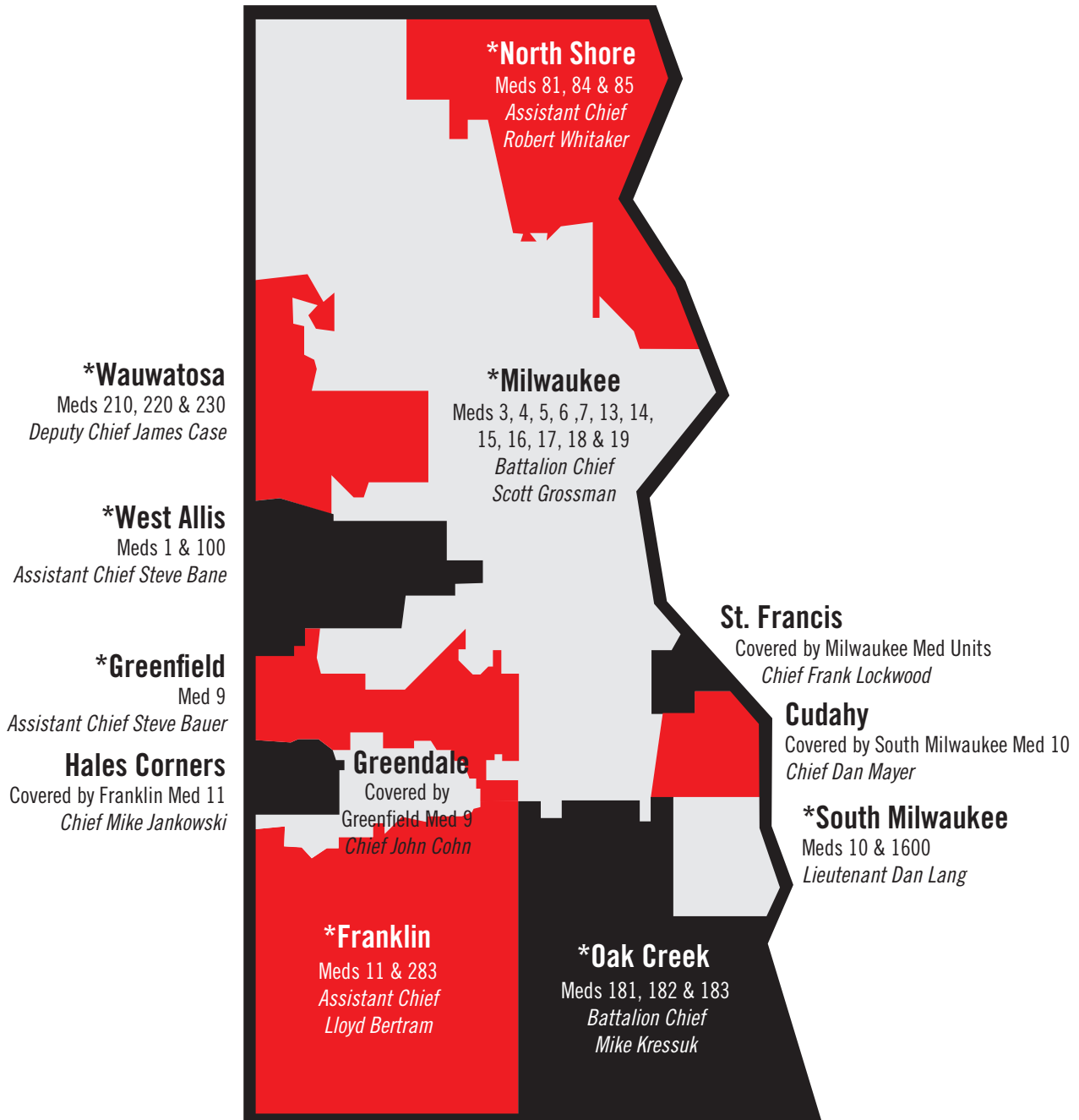
Transported to hospital by:

- ALS (Fire Department) = 38
- BLS (Private Ambulance) = 151
- Refused Transport 302



PARAMEDIC UNIT LOCATIONS

Several municipalities who MC EMS contracts with to provide paramedic services*, added paramedic transport units to their fire departments. As of the end of 2008 there are 28 fire department paramedic transport units within Milwaukee County.



EDUCATION

Web Based Education

MC EMS Education Center continued our distribution of education via an Internet web-based method. This method called Distributive Learning (DL) has become very a successful manner via which to distribute EMS related education. In addition, the DL site has made the distribution of notices, e-mails and the sharing of general information easier and more efficient. This method of communication has become so effective and efficient that other fire-based EMS providers have decided to implement using the same process.

Statistics on Number of Classes Taught and Students Educated

Paramedic refresher classes taught and number of students educated

2008 EMT/Paramedic refresher classes held – 39
EMTP attending refresher classes – 608

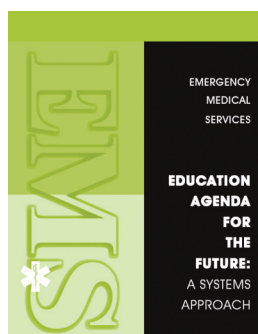
Paramedic students maintain an above average pass rate on national certification/state license exam

Paramedic students graduation from the Milwaukee County EMS Education Center continue to pass the national certification/state or Wisconsin licensing exam offered by the National Registry of EMTs at an above average rate. Nationally, paramedic candidates pass the NREMT exam at a rate of 68% the first time they take the exam and graduates from our school passed at a rate of 96% in 2008.

New paramedic students educated

17 students enrolled in the EMT/Paramedic course in September of 2008 and will take their national certification exam in April of 2009.

5 municipalities were represented: Greenfield Fire Department, Milwaukee Fire Department, North Shore Fire Department, Wauwatosa Fire Department and West Allis Fire Department



First responder classes for Aquatics

The Milwaukee County EMS Education Center provides First Responder training to lifeguards from the Aquatics department who staff pools and beaches throughout Milwaukee County. The First Responder class is an advanced first aid class that covers a multitude of topics from medical, respiratory, pediatric and elderly emergencies, to trauma and CPR. The class is taught over 44 hours.

2008 1st responder classes offered
3 new 1st responder classes – 84 students
1 refresher class – 35 students



American Heart Association classes

2008 Participants	CTC Number of Classes	Attended
ACLS Classes	32	215
ACLS Instructor	4	27
BLS Healthcare Provider	78	510
Heartsaver AED & First Aid	16	115
BLS Instructor Classes	6	30
PALS Provider	26	176
PALS Instructor	1	8

Education Center

Faculty from the EMS Education Center provided the firefighter/EMT-Basic staff from the County Airport Fire Department with education modules to assist the staff in how and when to use two new pieces of medical equipment purchased by the fire department. Automatic blood pressure and pulse oximetry units were added to the Airport Fire Department's equipment inventory to assist the EMTs in caring for patients in challenging locations which are located in and around the airport. These educational modules were developed and delivered by EMS education faculty over several days to make sure all shifts of EMTs received the education.



EMS COMMUNICATION CENTER

Increased Integration of EMS Communications Center and EMS Agencies Related to Multiple Casualty Incidents and Wisconsin Emergency Preparedness Program Initiatives

In 2008, the EMS Communications Center proved to be an important link in communicating data from on-scene EMS providers and area receiving hospitals in southeastern Wisconsin. In these cases, the EMS Communications Center staff was able to alert area hospitals of a multiple casualty incident (MCI) using the Internet-based hospital capacity program called WiTrac. This program lists hospitals throughout Wisconsin by region as well as the status of the hospital, open or diverting ambulances and the bed availability in case of an MCI event.

Statistics

EMS Communications Center Activity - 2008					
Total Communication Events	59,637 (+4%)				
Total number of time a paramedic unit requested a communication frequency	46,353 (+4%)				
Requests to speak to a medical control physician	1,426 (-2%)				
	Med Unit	Fire Dept BLS	Milw Co. Private EMS Provider	Out of County EMS Provider	Totals
Froedtert Memorial Lutheran Hospital					
Ambulance triage pages	2,296	807	4,895	479	8,480
All trauma pages	1,614	169	556	360	2,928
Total Froedtert pages					11,408 (+8%)
Children's Hospital of Wisconsin					
Ambulance triage pages	777	272	2,407	393	3,858
CHW trauma pages	276	31	118	92	536
Total CHW Pages					4,394 (-4%)

Numbers in parentheses indicate percentage of increase or decrease from 2007.

OPERATIONS

Bradley Center Activities

The Bradley Center continues to contract with Milwaukee County EMS to provide advanced level emergency medical care to the spectators and Bradley Center staff who attended one of over 125 events hosted at the Bradley Center. Some of the events include Bucks, Marquette basketball games, Admirals hockey games, music concerts, motorcycle events, college graduations, corporate meetings, and gymnastic events. Over 1.6 million spectators attended events in 2008 at the Bradley Center.



2008 Bradley Center MC EMS activity:

Reports Written

Medical Assessments	72
Trauma Assessments	91
Total	163

Transport Refusals

ALS Treatment	4
Other Patients	129
Total	133

Transports

ALS Transports	11
BLS Transports	19
Total	30



MONTHLY SUMMARY

Month	Reports Written	Medical	Trauma	Refusals	Transports
January	29	14	15	24	5
February	26	12	14	21	5
March	31	13	18	25	6
April	13	5	8	12	1
May	3	2	1	2	1
June	0	0	0	0	0
July	1	1	0	1	0
August	6	3	3	5	1
September	12	6	6	11	1
October	10	3	7	9	1
November	17	8	9	12	5
December	15	6	9	11	4
Total	163	73	90	133	30



County AED Program

EMS continues to support the Milwaukee County's Automatic External Defibrillator program (AED). The County's AED has 50 defibrillators located at all major county buildings and are used by the Parks Department and rotated seasonally. EMS supports this program by hosting certification and recertification classes for county employees who may be called upon to use the AED. In addition, EMS supports the AED program by maintaining the AED units, providing annual checks as well as downloading the data in the event an AED unit is used. If a unit is used, the staff of EMS will review the case and provide quality assurance feedback to the agency where the unit was located and to the individual(s) who used the unit while resuscitating a patient.



MEDICAL SCIENCES RESEARCH

Milwaukee County Emergency Medical Services stands as a national model of an EMS Center of Excellence. Its participation in research further enhances the quality of care delivered, improves outcome for the citizens of Milwaukee, and establishes the standard of medical practice for the nation.



ROC Studies

Milwaukee County Emergency Medical Services (EMS) system has been selected as one of the National Institutes of Health (NIH) ten centers for the Resuscitation Outcomes Consortium (ROC) to study the impact of promising clinical interventions on survival for patients with severe traumatic injury and cardiac arrest. Two ROC studies have been implemented in Milwaukee County EMS. The Hypertonic Saline Trial randomizes patients with severe traumatic or brain injury to receive either the current standard of care (intravenous normal saline fluid) or the current standard of care plus intravenous hypertonic saline fluid. Hypertonic saline rapidly expands volume inside the body's blood vessels and reduces brain swelling. The PRIMED Trial evaluates new methods to improve blood pressure during CPR for patients with cardiac arrest: use of a new, non-invasive device placed on the airway called the Impedance Threshold Device and performing CPR for a longer period of time before attempting defibrillation.



IMMEDIATE Trial

Milwaukee County EMS has successfully completed investigating ways to limit the size of heart attacks to improve survival and quality of life for patients with a lack of blood supply to the heart. The Immediate Trial is evaluating the benefits of an intravenous infusion of a combination of glucose, insulin, and potassium (GIK) started in the ambulance prior to hospital arrival. Data associated with this study continues to be evaluated.



NETT Network

The National Institutes of Health has also selected Milwaukee County EMS as a center for the Neurological Emergency Treatment Trials (NETT) Network. Although studies have not been selected or begun yet, this consortium will implement promising clinical interventions for patients with neurological emergencies such as stroke, uncontrolled seizures, or meningitis.



MEDICAL CONTROL

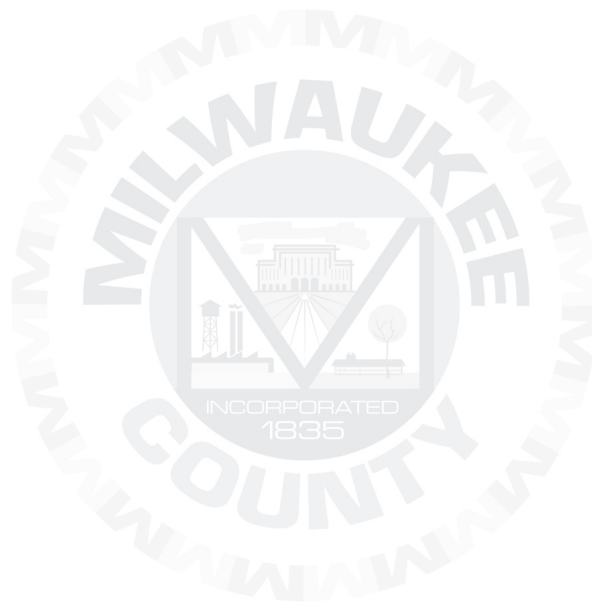
The Medical Directors of the Milwaukee County EMS System have continued to increase their involvement and share their expertise throughout Wisconsin and the nation. Dr. Charles Cady has been named as the State of Wisconsin EMS Medical Director and elected to the National Association of EMS Physicians (NAEMSP) Board of Directors. Dr. Pirrallo has started his 4th term on the NAEMSP Board of Directors and is the President-Elect for the organization. Dr. Riccardo Colella has taken over medical direction of Flight For Life Air Medical Services, overseeing the expansion of the program to Fond du Lac. Dr. Ken Yen is the newest Medical Director to join the team as the Assistant Director of Pediatrics.

Tactical EMS

The need to provide medical support for law enforcement missions has been increasing. This unique area of EMS that integrates advanced life support care into the potentially hostile environment of tactical law enforcement missions is lead by Dr. Jason Liu. Dr. Liu has in-serviced system Paramedics and area law enforcement officers on how best to accomplish the mission of providing exceptional care in high risk situations.

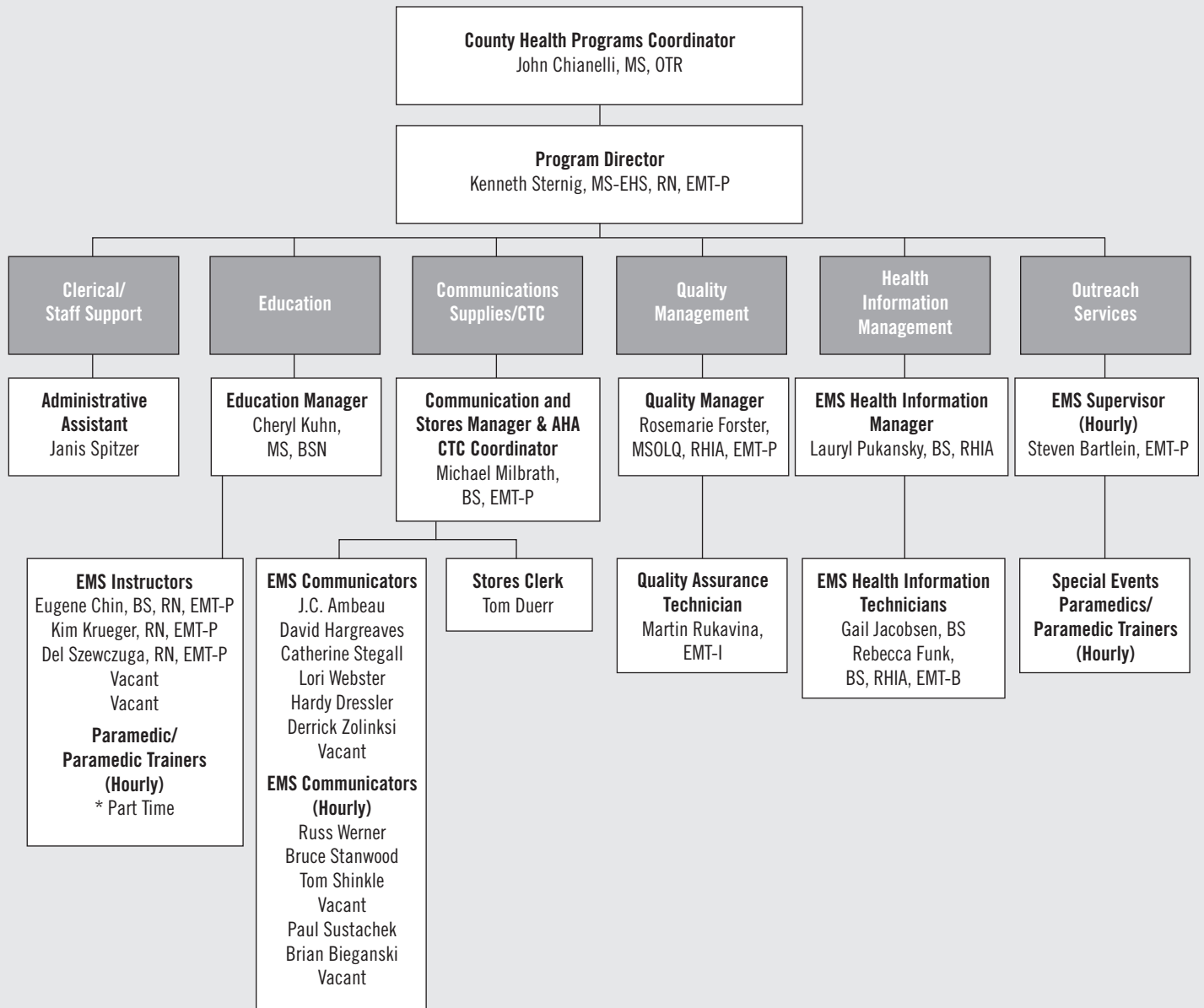
Milwaukee County EMS Medical Directors

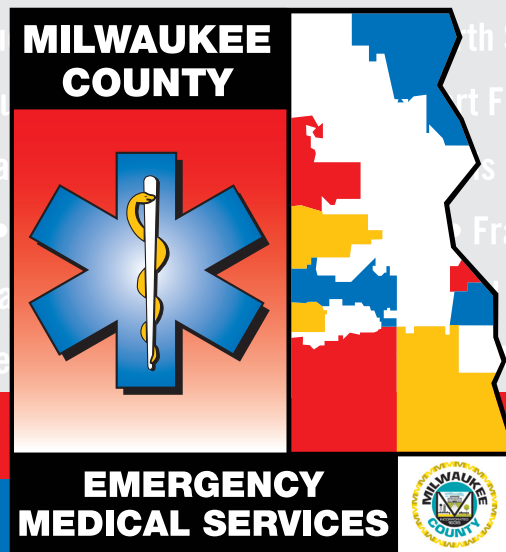
Ronald Pirrallo
Jon Rubin
Chuck Cady
Jason Liu
Riccardo Colella
Ken Yen
Brooke Lerner





Milwaukee County Emergency Medical Services Organizational Chart





1220 W. Vliet Street
Milwaukee, WI 53205

Phone: 414-289-6540

Fax: 414-289-8528